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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/599,548

09/29/2006

Derk Vegter

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EXAMINER

AMRANY, ADI

ART UNIT

PAPER NUMBER

2836

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/599,548	VEGTER, DERK	
	<b>Examiner</b>	<b>Art Unit</b>	
	ADI AMRANY	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/29/06; 1/17/07</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because the reference numerals are hand drawn. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. Claim 11 is objected to because the phrase, "making contact" (line 6) is unclear. For the purpose of the art rejection of the claim, the phrase will be interpreted as reciting that the two components (resistor/capacitor) share a node with the transistors.

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3. Claim 13 is objected to because there appears to be a subject missing from the phrase, "wherein only supplies" (lines 2-3). For the purpose of the art rejection of the claim, the phrase will be interpreted as "wherein the control circuit only supplies."

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-10 and 12-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auer (US 4,118,750), from applicant's IDS.

With respect to claim 1, Auer discloses a control circuit for a relay-operated component (abstract), with a relay (fig 2, item 125) and a failsafe circuit (123-124) for the relay, a control device (102; col. 2, line 46 to col. 3, line 7) being connectable to an input of the failsafe circuit (131, 132), and the failsafe circuit only supplying the relay with a voltage and/or current necessary for operating the relay when an input signal having at least two different frequency signals succeeding each other in time (fig 3; col. 3, lines 12-37) is supplied at the input of the failsafe circuit by the control device (col. 4, line 67 to col. 5, line 6; col. 5, line 47 to col. 6, line 49).

Auer discloses that the frequency signals are used to activate "a vital relay." One skilled in the art would recognize that a gas valve in a vital relay. Further, the limitation that the recited control circuit is "for relay-operated gas valves" is interpreted as the end

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use of the device. The Auer failsafe circuit will work the same way regardless of what the relay is designed to open/close.

With respect to claims 2-5, Auer discloses the failsafe circuit includes a charging circuit having at least one capacitor (149a-b; col. 4, lines 26-28), the charging circuit charging at least one of the capacitors exclusively upon application or presence of a first frequency signal in the input signal. Auer discloses that the first/second capacitors are charged during application of the first/second frequency signal, respectively. As is well known in the art, when a capacitor is not charged, it discharges.

With respect to claim 6, Auer discloses a drive circuit (124) coupled to the relay (125), upon the application of a second frequency signal in the input signal, supplying the relay with a voltage and/or current necessary for activating the relay (col. 5-6).

With respect to claim 7, at the time of the invention by applicant, it would be obvious to one skilled in the art to include a transistor that conducts only during discharge of "a capacitor" of the drive circuit. The components recited in claim 7 have no connection or relation to the activation of the relay, as recited in claims 1-2 and 5-6, upon which claim 7 depends. Claim 2 recites that the charging circuit has a capacitor. Claim 7, however, recites "a capacitor of the charging circuit," which indicates a different component ("the" or "said" before "capacitor" would indicate the same component as previously recited). Therefore, it would have been obvious to one skilled in the art to supply a capacitor coupled to the base of a transistor, as the orientation of these components has no effect on the rest of the failsafe circuit.

With respect to claim 8, it would have been obvious to one skilled in the art to connect the terminals of "a transistor" to the recited voltages, since this connection has no bearing on the operation of the failsafe circuit.

With respect to claims 9-10, it would have been obvious to add another transistor that is switched with the first transistor, since neither component has an effect on the rest of the device, as discussed above.

With respect to claim 12, Auer discloses a base frequency range of 600-12000 Hz, while the two signal frequencies about 5% above/below the base frequency. At the time of the invention by applicant, it would have been obvious to one skilled in the art to select a different frequency value, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The actual frequency values do not matter, so long as the combination of frequencies do not normally appear in nature (col. 1, lines 66-68).

With respect to claim 13, Auer discloses the relay is only supplied with voltage if the two frequencies are applied succeeding each other in time by definition in the input signal (col. 3, lines 12-37).

With respect to claim 14, Auer discloses two frequency signal that are applied successively (col. 3, lines 12-37). The rest of the claim appears to only define "successively."

With respect to claims 15-18, Auer discloses the failsafe circuit, as discussed above in the rejection of claim 1. Claim 15 only differs from claim 1 by not including the

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limitation that the two frequencies are successive. Dependent claims 16-18 recite limitations directed towards the definition of "successive," which is met by Auer, as discussed above.

With respect to claims 19-21, Auer discloses the apparatus necessary to complete the recited limitations, as discussed above in the rejection of claims 1 and 2.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Auer in view of LaForest (US 3,715,669), also from applicant's IDS.

LaForest discloses a failsafe circuit for a relay, wherein the failsafe circuit only outputs a relay command if it receives two different frequency signals succeeding each other in time supplied by a control circuit (fig 1; abstract; col. 2). LaForest also discloses the drive circuit includes two Darlington transistor circuits (31,33 and 39,40), a diode (37, 42) connected in parallel to the relay, and a series connection of a resistor and capacitor (34,35 and 36,38) making contact between the two Darlington transistor circuits.

Auer and LaForest are analogous because they are from the same field of endeavor, namely failsafe circuits. At the time of the invention by applicant, it would have been obvious to one skilled in the art to configure the Auer driving circuit using the components disclosed in LaForest in order to separate the drive signals from the two frequencies to their respective current paths.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADI AMRANY whose telephone number is (571)272-0415. The examiner can normally be reached on Mon-Thurs, from 10am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571) 272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Sherry/  
Supervisory Patent Examiner, Art Unit 2836

AA



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